ABSTRACT

The present invention provides a technology for reducing artifacts attributable to the non-linearity in the input-output characteristic of a radiation detector and beam hardening of

5 radiation in a tomograph. The tomograph includes a scanning system that includes a generation means which generates radiation to be irradiated to a subject and a detection means which is opposed to the generation means in order to detect the radiation transmitted by the subject, and a rotation means

10 that rotates the scanning system about the subject, and reconstructs a tomographic image of the subject using a plurality of transmitted images produced by projecting the radiation from a plurality of rotational angular positions while rotating the scanning system about the subject. The tomograph further

15 includes: a first storage means in which measured images that are three or more transmitted images produced by rotating the scanning system about a plurality of phantoms including at least one phantom whose section perpendicular to an axis of rotation of the scanning system has different dimensions in two directions

20 orthogonal to the axis of rotation are stored; a production means that produces calculated images as the transmitted images through calculation; a second storage means in which the produced calculated images are stored; and a correction means that corrects the intensities represented by the transmitted images

25 of the subject according to the measured images and calculated

images.

5